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LIBRARY JOURNAL

APRIL 1, 1987

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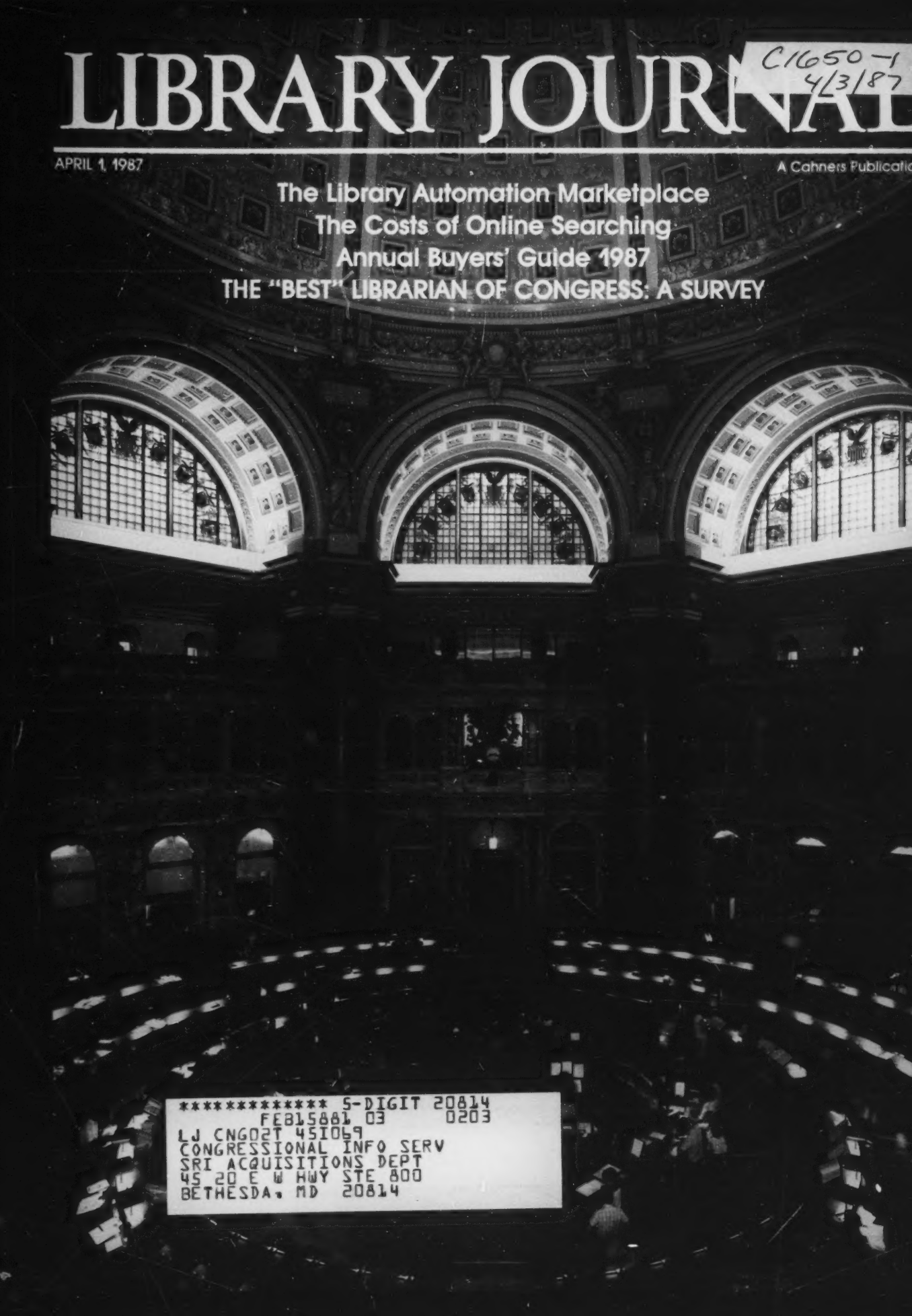
The Library Automation Marketplace
The Costs of Online Searching
Annual Buyers' Guide 1987
THE "BEST" LIBRARIAN OF CONGRESS: A SURVEY



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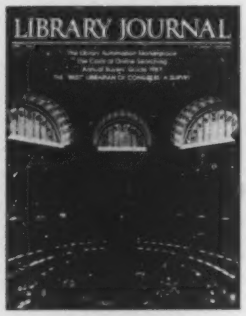

LC's Main Reading Room, photo by Reid Baker—Library of Congress. Qualifications for the Librarian of Congress are discussed on p. 23-34

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LJ continues to examine library automation events and trends

The 1986 Automated System Marketplace: New Perspectives, New Vistas

By Robert A. Walton

IN 1982, Joe Matthews (formerly of J. Matthews and Associates) published in *LJ* the first of what would become an annual review of the automated library system marketplace. The article was designed to examine critically the important library automation events and trends, the automation suppliers and consumers.

Matthews's annual marketplace study established itself as the flagship reference tool for the library automation industry, examining the "business side of the business" by identifying the automation winners and losers. During 1986, Matthews joined the staff of a library automation vendor (INLEX). In fairness to other automation vendors and to insure the continued integrity of his earlier efforts, he passed the baton to a new writer. While slightly different in style and focus, this analysis is written in the same spirit and seeks to provide the same fair coverage.

Robert A. Walton is Automation Consultant, Texas State Library and Owner, R. Walton & Associates, Austin, Texas

Who got counted

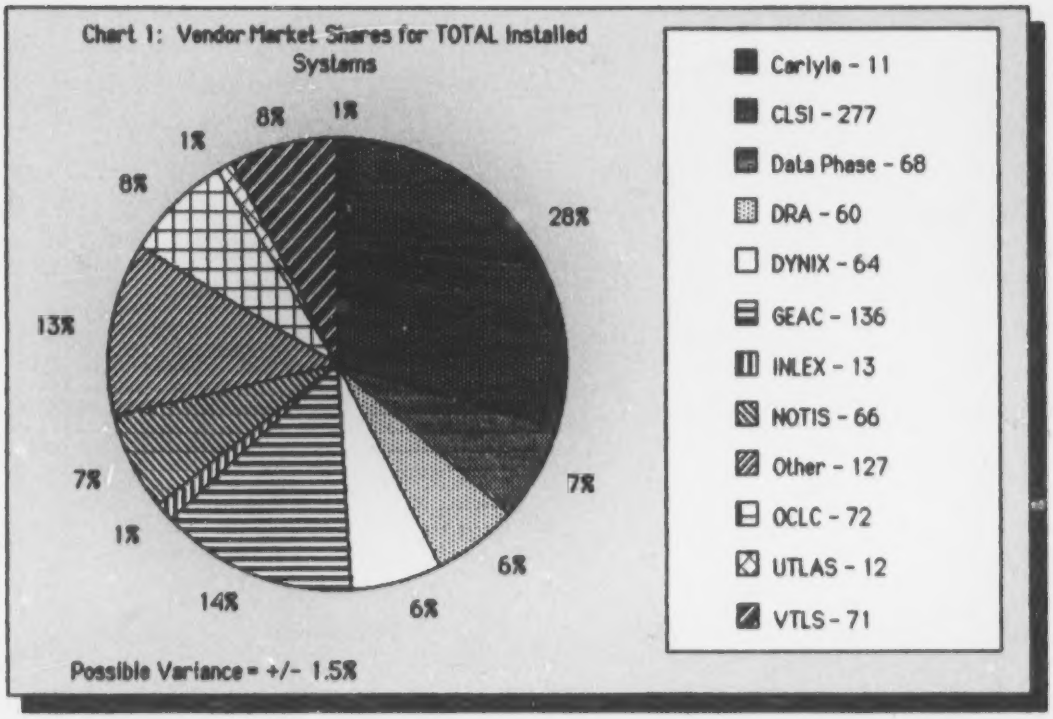
When most broadly defined, the library automation marketplace is made up of firms providing one or more of five specialties: turnkey library systems; software-only systems sold by one library to another; software programs designed for use on microcomputers; data conversion and preparation services; and the production of microform catalogs (COM) and union lists. Each of these automation specialties is deserving of its own marketplace analysis. Given the constraints of time and space, however, this article focuses on an examination of the turnkey library system market—those firms providing systems which include the computer hardware, software, installation, training, maintenance, and other services necessary to make the system a success.

A second criterion for inclusion is that the firm provide an automated system which clearly provides *multiple functional subsystems*, such as circulation control and the online public access catalog. Finally, systems subject to review need to be actively marketed. This article tries to address the common question, "Who will respond to my Request for Proposals?" These are the systems produced by turnkey vendors. The purchase of turnkey automation solutions remains the primary automation alternative of most libraries as they attempt to minimize the risk and difficulty of developing their own systems.

Only systems actually *installed* before or during 1986 are included in this analysis. Those situations where contracts have been established between the vendor and library, but where actual installation did not take place during 1986, have been excluded. Counted are each installed central computer site or facility. In some cases the installation may be shared by multiple libraries, referred to as a "shared" system. For example, at the end of 1986, CLSI had 277 installed systems serving over 1200 libraries. For purposes of analysis, CLSI will be credited with 277 total installations, not 1200.

Continued turnkey market growth

The total number of systems installed by tunkey vendors, those identified in the Source List, increased during 1986, continuing a pattern of market growth that has existed for four consecutive years. The 193 new installations reflect a 33 percent in-



crease over the 145 systems installed by these same vendors during 1985 (data from Joseph R. Matthews, "Growth & Consolidation: the 1985 Automated Library System Marketplace," *LJ*, April 1, 1986, p. 25-37).

This market expansion is partly explained by improvements in the "cost performance" of computer hardware. Computer hardware prices continue to drop. Computing power per dollar spent continues to increase. This results in an increasing number of libraries finding sufficiently powerful automated systems to be entering acceptable ranges of affordability. Most technology indicators show that this phenomena will probably continue and the library automation market will probably continue to expand.

During 1986, overall market shares by turnkey vendors offered few surprises. Each year an increasing number of libraries purchase and install automated library systems. As the cumulative total of installed systems continue to grow, significant shifts in overall market share between vendors becomes more difficult. As shown in Chart 1, continuing to lead in the total number of installed systems is CLSI, with a 28 percent market share. Following CLSI with the second highest overall ranking is Geac with a 14 percent share. CLSI and Geac will probably continue to maintain these high shares, reflecting their long history and popularity in the automation turnkey market.

Battling for third through fifth position in total market share are VTLS (eight percent), OCLC (eight percent), and NOTIS (seven percent). Breathing down their necks are DYNIX and Data Research Associates (DRA), both posting a six percent total market share. All of these firms are aggressive and successful with specific portions of the overall library market and will, most likely, prevent CLSI and Geac from expanding their overall market shares. Particularly noteworthy are the relative newcomers to the turnkey market.

INLEX, Carlyle, and Utlas, each posting a one percent overall market share, proved that market penetration is possible and that competition will continue to be intense. These three are marketing newly developed software products and, given their very short tenure in the marketplace, are very unpredictable, perhaps offering surprises as 1987 evolves.

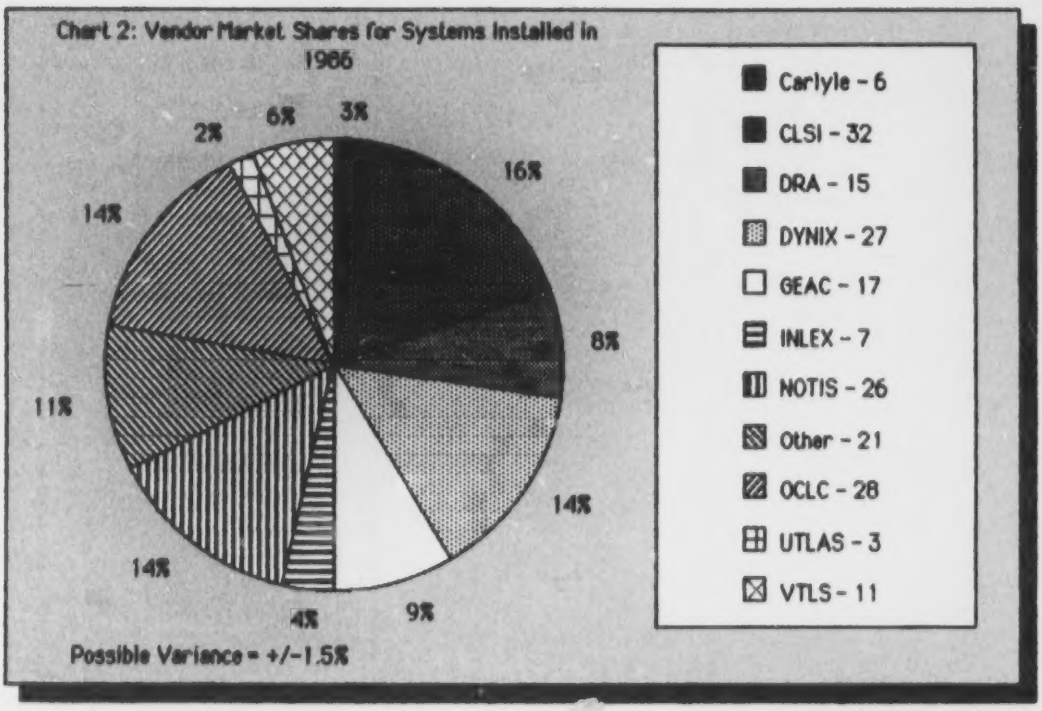
A changing market

While total vendor market shares for all installations over all years illustrate clear leadership by just a few vendors, an analysis of what happened in the 1986 market shares provides evidence of a changing market. As an increasing number of libraries purchase systems, the newer turnkey vendors find fertile ground for growth and expansion.

As shown by Chart 2, CLSI posted 32 installations in 1986, resulting in a 16 percent market share. Close behind are OCLC, DYNIX, and NOTIS, each having a 14 percent share of the 1986 installations. Also demonstrating aggressive growth are DRA, INLEX, and Carlyle, each of which improved their percentage market shares when compared to installations for the prior year (1985).

Since CLSI retained its market share and several smaller firms expanded, at least one or more vendors had to suffer a market share decline. This comes largely at the expense of Geac which, because of widely publicized corporate financial problems during 1986, had fewer installations in 1986 than 1985.

But what is the importance of these "overall" market shares? Do these aggregate market positions illustrate which vendors will compete for a specific library account? Probably not, with one exception. CLSI has consistently maintained a large overall market share and long-term stability in the library automation in-



dustry. Given CLSI's ample financial resources and well-established marketing and sales network, it has the ability to aggressively pursue most (if not all) potential library installations.

CLSI typically markets its products to every library, regardless of type, size, or geographic location. Most of the other vendors, including Geac, are more selective in pursuing sale of their products. As a rule, vendors usually target for aggressive marketing those libraries which meet a certain profile of functional expectation and system cost, allowing the vendor to focus important marketing personnel and dollars on those libraries where their products may be more competitive.

Some systems are better suited and more attractive to public libraries than to academic libraries. Some vendors cannot aggressively market in all geographic markets, and may be limited to domestic installations or even selective regions in the domestic market. Several vendors avoid marketing to libraries which desire a particularly large or small automated system, seeking out only medium-size installations where the cost performance of their product is strongest.

So, what are the marketplace patterns? How do market shares change in light of these market-differing attributes?

Installations—by type of library

Vendor market shares begin to shift when installations are broken out by type of library. Chart 3 illustrates the total number of installations for each vendor by academic libraries, public libraries, and shared systems (those shared by two or more libraries of any type). Chart 4 presents the same type of library breakdowns, focusing only on those systems installed in 1986.

Clearly, NOTIS, OCLC, and Carlyle have been successful almost exclusively with academic installations. These vendors show few or no 1986 installations for either public libraries or shared systems. Both CLSI and DYNIX have a respectable number of installations within each library type, but are recognizably more popular and competitive with public library installations.

Alternately, Geac also has a good mix of library types, but tends to be slightly more acceptable to academic libraries. INLEX shows strength with both public and academic libraries, but has not yet made a strong showing with shared systems. DRA and VTLS have both demonstrated a solid mix of installations, being successful in marketing their systems to each of the three library-type categories.

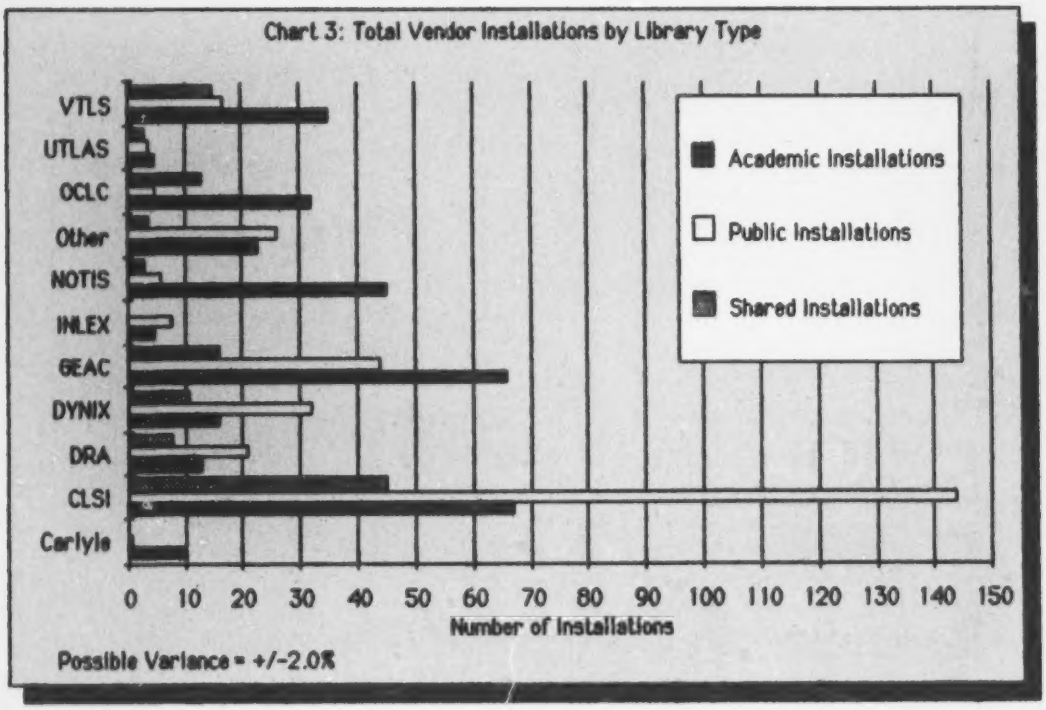
Domestic versus foreign installations

How do market shares change if domestic and foreign installations are divided and then compared? This analysis illustrates two important changes in market share positioning, particularly on the domestic market share side. First and most significant (Chart 5), approximately 50 percent of the Geac installations are foreign. By removing these foreign installation sites and reexamining the domestic market shares of total installations, Geac's domestic market share is roughly comparable to DRA, DYNIX, NOTIS, OCLC, and VTLS. This is an important and often overlooked consideration, particularly in light of the fact that most firms have primarily a domestic marketing focus.

A second important realization is that foreign libraries will, under current marketing trends, probably end up choosing between CLSI and Geac. While other vendors are beginning plans to market to selected foreign areas, CLSI and Geac continue to dominate systems sold abroad.

Installations by terminals supported

One method popularly used to judge the size (small, medium, or



large) of an automated library system is counting by the number of terminals connected to and operated by the central computer. So, how do vendor positions change when the marketplace is restructured to account for the size of the system? Chart 6 illustrates the total number of installations of each vendor broken out by the ranges of terminals supported. Chart 7 presents the same breakdowns, only focusing on those systems installed in 1986.

When looking at 1986 installations, CLSI and OCLC show strength primarily in smaller systems (those serving up to 16 terminals) and medium-size installations (those supporting between 17–64 terminals). The NOTIS system, designed to operate on an IBM mainframe, is the clear leader in installing large systems (designed to support more than 65 terminals). DRA, marketing the ATLAS software designed for the DEC VAX hardware environment, also made a strong showing in the large-systems market, installing eight sites during 1986. Geac is stronger in medium-size sites, largely due to the cost performance of the Geac 8000 hardware.

Vendor pofiles

The library automation marketplace is becoming increasingly diversified. Contrary to earlier years when the marketplace was heavily dominated by just a few companies, there is a growing number of firms actively promoting automated systems. Of these key marketplace players, what was accomplished during 1986? What might libraries expect during 1987?

Carlyle

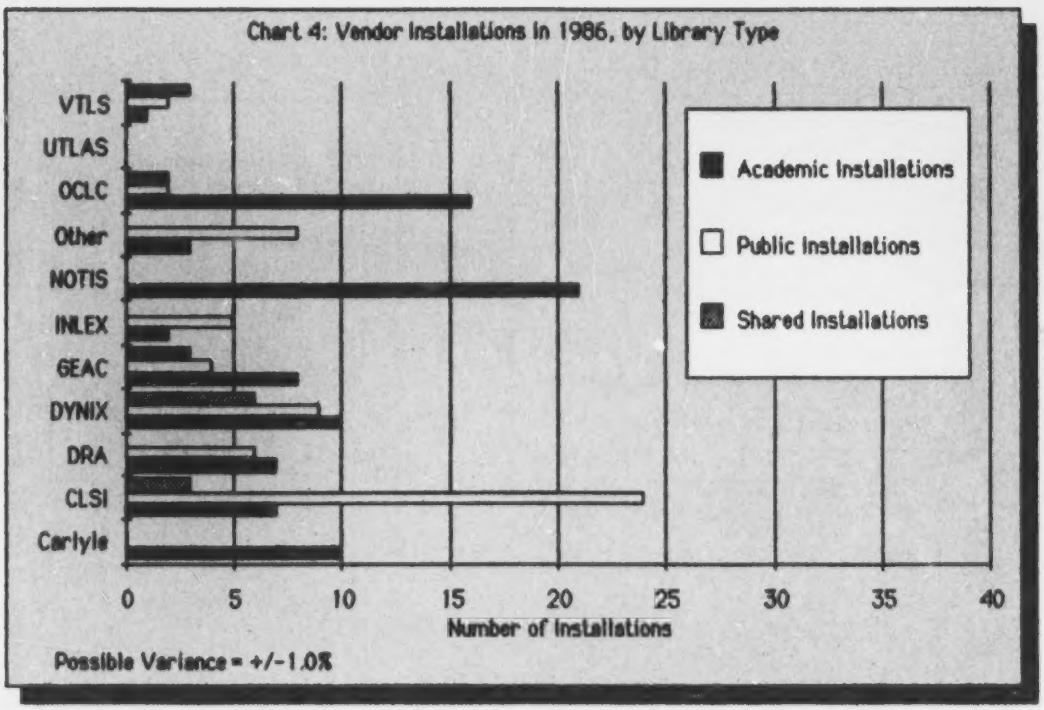
Carlyle, a company which had been struggling in 1985, received a corporate boost by the infusion of $2 million in venture capital during July 1986. These funds made it possible for Carlyle to hire additional marketing and customer support staff, necessary to more actively promote their system. In line with this more aggressive market outlook, Carlyle moved into new headquarters and opened regional offices in New York and Chicago. Responding to concerns by some libraries that the Carlyle system operates on customized hardware, instead of off-the-shelf computer hardware, the company introduced a new hardware maintenance guarantee which provides for a minimum of 98 percent system uptime at half the cost of their prior maintenance fees.

For 1987, Carlyle has set aggressive goals to double the number of installed systems and increase by 100 percent the staff necessary to support these new customers. Carlyle also projects an unprecedented target of tripling total annual revenues and posting a profit *in each* quarter of 1987.

CLSI

CLSI, the leading library automation turnkey vendor, focused its efforts on expanding its share of the foreign library market, improving the services currently offered to existing domestic cutomers, and broadening the emphasis of CLSI software development to be more competitive in differing market segments, particularly academic and special libraries. During August 1986, Gene Robinson took the helm as the new president, replacing Richard Goldberg who moved up the ladder in CLSI's parent organization, TBG, Inc. Following what appears to be an interesting trend, CLSI moved to larger headquarters.

Increased emphasis has been placed on expanding staff support of existing customers, in an effort to maintain an overall uptime of 98 percent for existing CLSI installations. CLSI showed significant gains in foreign market share, primarily in Europe, and announced in December 1986 the signing of an agreement to automate the National Library of China (Bejing), one of the world's largest libraries.



For 1987, CLSI proposes to continue a more aggressive posture in verticle marketing, by adapting CLSI software products to meet the special requirements of consortia, academic, and special libraries. In order to accomplish this objective, a target has been established to double the number of software engineers dedicated to product development and increasing customer support staffing by 50 percent over 1986 staffing level.

Data Research Associates

DRA showed increasing strength during 1986, improving its overall market share by several pecentage points. New support staff were added to accommodate the addition of 15 new installations, and a new electronic mail service was added for DRA customers to communicate with headquarters staff. Software development personnel completed the development and testing of the new serials control subsystem, expanded features in the acquisitions subsystem, and added Boolean searching to the online public access catalog. DRA also moved into new headquarters.

For 1987, DRA is one of the vendors capable of making significant improvements in overall market share. Use of the DEC VAX hardware line has greatly increased the visibility and acceptability of DRA to many academic libraries, while remaining a popular choice to public and special libraries. With completed field testing of authority control and Boolean search scheduled for early 1987 (completing the ATLAS integrated library system) and the addition of new marketing and sales positions, DRA will continue to strengthen and emerge as one of the more competitive vendors.

DYNIX

DYNIX was the subject of much speculation and rumor during 1986. At a time when other major companies, such as CLSI and Utlas, were being purchased by larger international companies, DYNIX broke away from its parent institution, the Eyring Research Institute, Inc. During October 1986, DYNIX became an independent company as the result of a management and staff buyout. Normally this type of corporate shift would be viewed by customers with concern, but DYNIX installations contacted seemed very positive about the newly formed company.

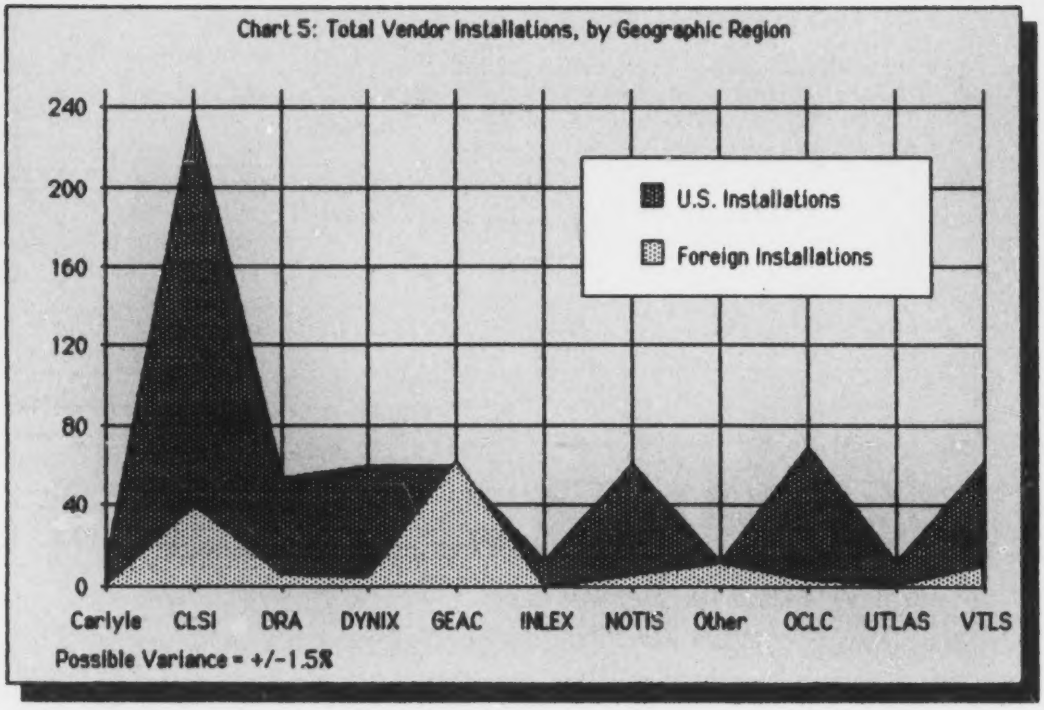
As it gained independence, DYNIX also found the need for additional personnel. While there was no increase in sales personnel, DYNIX added six new trainers, five software programmers, and several new administrators. Domestic installations increased 40 percent over those completed in 1985 and DYNIX threw its hat into the foreign market, installing systems in Australia, England, Scotland, and Wales.

For 1987, DYNIX is focused on the general release and installation of two new subsystems, serials control and acquisitions. Programmers are also scheduled to make modifications to the DYNIX software necessary for it to operate on the DEC VAX and IBM 9370 series computer systems.

Geac

During 1986, Geac was focused on stabilization of its products and customer base. Suffering from declines in the Canadian banking industry and exchange rates, Geac assumed a less aggressive marketing strategy in 1986 and concentrated on the migration of its software to the new Geac 9000 computer system. Geac also expanded the cataloging subsystem to include full authority control processing.

Contrary to the much publicized financial difficulties of Geac, including some rumors that it was "dead in the water," the company remains very much alive. While the number of 1986 installations decreased signifi-



cantly when compared with previous years, Geac remained a popular choice of academic libraries and continued as a leader in the foreign library automation market.

For 1987, Geac will continue its concentration on migrating the software to the new 9000 computer system and renew a more aggressive strategy to regain domestic sales.

INLEX

Perhaps more than any other vendor, INLEX caught the library automation industry by surprise. After speculation that the marketplace was already too competitive and that new firms would be unsuccessful in gaining a foothold, INLEX signed ten contracts resulting in seven installations during 1986. A second major tremor was felt with the announcement that Joe Matthews and Joan Frye Williams, both former library automation consultants of high regard, had joined the INLEX staff. The addition of Matthews and Williams brought, in the eyes of many libraries, a new credibility.

This will be a very important year for INLEX. After installing a respectable number of sites in 1986, librarians will be watching to see whether INLEX will be able to continue its aggressive marketing efforts while, at the same time, continuing software development and providing support to the newly installed INLEX customers. INLEX seems comfortable with the challenge.

Software developments currently scheduled for completion by the second quarter of 1987 will complete the full complement of INLEX software. Several new domestic offices will be opened in 1987, the first of these in Cleveland. In addition, INLEX Canada will open an office in the Toronto area, increasing efforts to capture part of the growing foreign market. Many eyes are currently on INLEX.

NOTIS

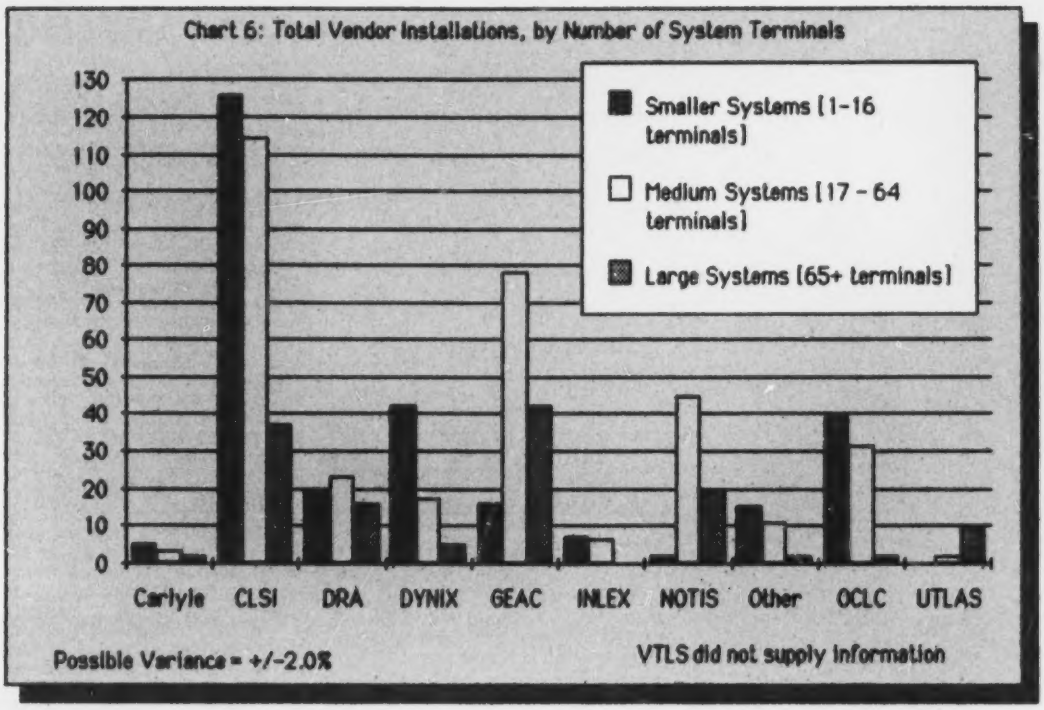
During 1986, NOTIS overpowered all other vendors in establishing a significant lead in the large, academic automated system market. Owned and operated by Northwestern University, NOTIS installed 21 new academic sites in 1986. The NOTIS success in this specialized market has not gone unnoticed. TBG, Inc., owner of CLSI, courted Northwestern with an offer to buy NOTIS, but negotiations broke down and the deal was never consumated. NOTIS, clearly the vendor to beat in the large, academic market, is currently enjoying a "bandwagon" effect as academic libraries line up to install the NOTIS software.

For 1987, NOTIS's plans are to increase staffing to better support new installations and provide customized conversion services. Also due in 1987 are several software enhancements, including the delivery of keyword searching, Boolean searching, and improvements to the acquisitions module. NOTIS shows no signs of slowing down.

OCLC

Nineteen eighty-six was a year of maturation and stability for OCLC Local Systems, evidenced by more than 30 system acceptances which were awarded. More important, however, was OCLC's agreement to acquire from Data Phase the ALIS I and ALIS II software. OCLC is now providing all software and hardware maintenance support to these Data Phase customers. As part of the deal and in order to provide a smooth transition, five Data Phase employees joined the OCLC Local Systems Division payroll. While many of the ALIS sites were pleased to be acquired by OCLC, overall reviews remain mixed pending how OCLC responds to problems never resolved by Data Phase.

In looking ahead to 1987, OCLC



proposes a strategy of continued market share stability and attention to existing installations. OCLC will remain focused on high service standards for existing customers (important given the addition of the ALIS sites) and the development of a link between the LC/2000 system and the ACQ350 micro-based acquisitions system.

Utlas International

Utlas International U.S., Inc. and Utlas International Canada remains focused on the completion of software enhancements to the T/100 system. After acquiring the ALIS III software and installations from Data Phase in 1985, Utlas renamed it T/100 and began the difficult process of systematically fixing software problems (from what became known as the ALIS III "bug list"). With a substantial number of the bugs repaired, Utlas then initiated a series of software enhancements, including improved statistics logging, multilibrary capabilities, and COM support. Work has begun on a new, smaller system, the T/50.

Realizing the importance of completing software improvements prior to more aggressive marketing of the T/100 and T/50 systems, Utlas installations in 1985 were low. The same may be true for 1987, particularly in light of the fact that major software improvements are still necessary to make the product marketable, including the online public access catalog, acquisitions, and serials control.

VTLS

VTLS, Inc. realized moderate growth in 1986, adding 11 new installations. Two new products, MICRO VTLS and a microcomputer acquisitions system, were introduced to the market and may serve to allow VTLS to have better vertical market attractiveness. As with several other major vendors, VTLS significantly expanded staffing, up 100 percent from 1985 personnel levels. Software enhancements continued, particularly on the serials control subsystem.

For 1987, VTLS predicts continued growth and has established plans to be more aggressive in the foreign marketplace.

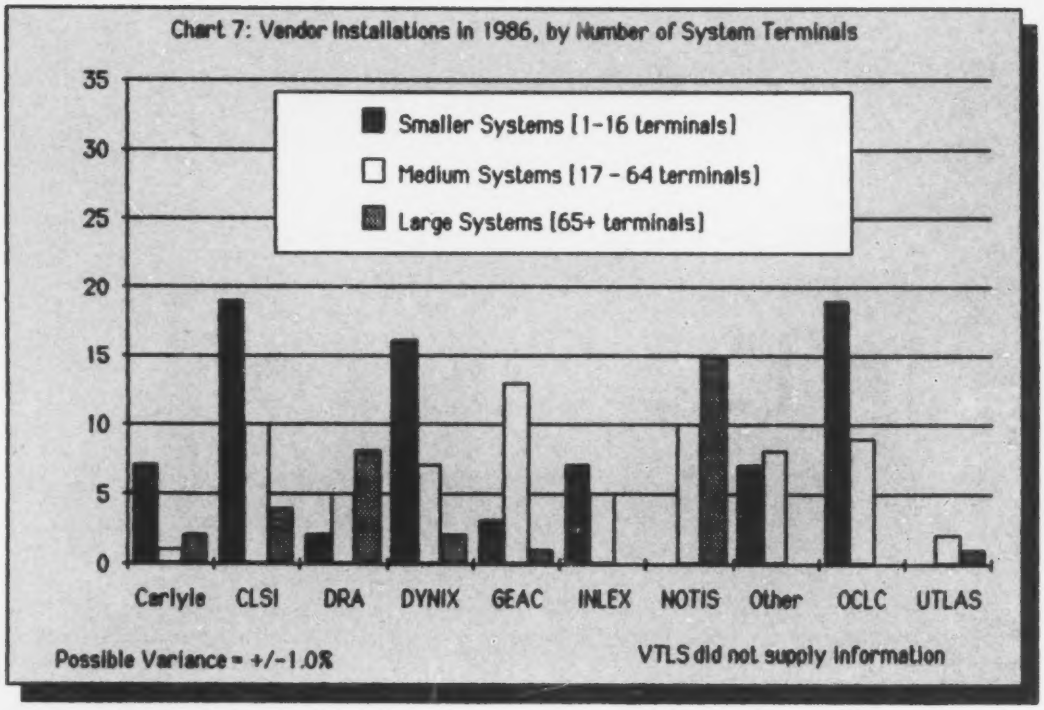
What about the others?

Matthews identified 40 firms in the 1985 marketplace article, yet only ten firms are the focus of this analysis. What happened to the others?

Many are included under "other," usually because they failed to secure enough installations during 1986 to warrant individual analysis. UNISYS, Eyring Research Institute, Gaylord Brothers, and McDonnell Douglas fall within this description. Most of these firms are very selective about which library projects they target for marketing and do not compete evenly or consistently.

Some systems listed in the Source List are only available by invitation (sole-source contracts) and do not, as a standard practice, participate in competitive procurement procedures. Examples of these would include the Georgetown University Medical Library, Pueblo Library District, and the Dougherty County Public Library. While these firms are generally passive in marketing, this is not a negative reflection on the quality of their products, and libraries should not be discouraged from investigating these automation alternatives. At the same time, most of these firms will probably not respond to a Request for Proposals, one of the criteria necessary to consider a firm "active" for purposes of this analysis.

One vendor that seems hard to fit into any of these categories is Innovative Interfaces, Inc. Since 1983, Innovative Interfaces has actively marketed a micro-based serials and acquisitions system, designed primarily for special libraries. This product, called INNOVACQ, has been extremely popular, having a very respectable 66 installations by



the close of 1986. But is it fair to compare and contrast this to the turnkey vendors analyzed above, most of which are focused on providing circulation control and online public access catalog functions in addition to technical services support? INNOVACQ was excluded from the market shares assigned in this analysis.

During 1987, Innovative Interfaces will be more aggressively marketing an integrated library system which will include the online public access catalog and, later, circulation control functions. What started out as a specialized software product has broadened its focus and will probably be appropriate for inclusion in the 1987 marketplace analysis.

Healthy marketplace

The library automation marketplace is healthy and growing. The vendor community has become more sophisticated in product development, marketing, and contract management. Increased competiton has, for the most part, benefited libraries and holds great promise for 1987.

The author would like to thank the automation vendors who cooperated in the collection of data necessary to perform this analysis. Without their cooperation, this article would not have been possible.

SOURCE LIST

Turnkey Vendors

Carlyle Systems Inc.
5750 Hollis St.
Emeryville, CA 94608

CLSI, Inc.
320 Nevada St.
Newtonville, MA 02160

Data Research Associates, Inc.
1276 N. Warson Rd.
St. Louis, MO 63132-1806

DYNIX, Inc.
1455 W. 820 N.
Provo, UT 84601

Eyring Research Institute
5280 S. 300 W., Suite E 260
Salt Lake City, UT 84017

Gaylord Library Systems
Box 701
Syracuse, NY 13221

Geac Computers
International, Inc.
350 Steelcase Rd. W.
Markham, Ontario
Canada L3R 1B3

H.C.E. Library
Automation Systems
P.O. Box 18265
Fort Worth, TX 76118

IBM Corp.
Academic Information Systems
427 Wheelers Farm Rd.
Milford, CT 06460

INLEX, Inc.
P.O. Box 1493
Monterey, CA 93942

Innovative Interfaces Inc.
409 5th St.
Berkeley, CA 94710

Library Systems & Services, Inc.
1395 Piccard Dr., Suite 100
Rockville, MD 20850

McDonnell Douglas
Computer Systems Co.
Library Systems
4000 MacArthur Blvd.
P.O. Box 19501
Irvine, CA 92713

NOTIS
Northwestern University
Library
1935 Sheridan Rd.
Evanston, IL 60201

Online Computer
Library Center (OCLC)
Local Systems
6565 Frantz Rd.
Dublin, OH 43017

Sedna Corp.
970 Raymond Ave.
St. Paul, MN 55114

SIRSI
8106-B S. Memorial Pkwy.
Huntsville, AL 35802

UNISYS
Public Sector Marketing
P.O. Box 500
Blue Bell, PA 19424

Universal Library System, Ltd.
205-1571 Bellevue Ave.
West Vancouver, B.C.
Canada V7V 1A6

Utlas
8300 College Blvd.
Overland Park, KS 66210

VTLS, Inc.
416 Newman Library
Blacksburg, VA 24061

Software Only

CALS Services Group, Ltd.
133 Mckinstry Dr.
Elgin, IL 60120

Centennial College
The Bibliocentre
80 Cowdray Ct.
Scarborough, Ontario
Canada M1S 4N1

Dougherty County
Public Library
300 Pine Ave.
Albany, GA 31701-2533

Georgetown University
Medical Library
3800 Reservoir Rd. NW
Washington, DC 20007

Midland Public Libary
Grace A. Dow Memorial
Library
1710 W. St. Andrews Dr.
Midland, MI 48640

Municipal Software
Consultants, Inc.
212 E. Franklin St.
Grapevine, TX 76051

Pennsylvania State University
E. 511 Pattee Library
University Park, PA 16802

Pueblo Library District
100 E. Abriendo Ave.
Pueblo, CO 81004

Tarrant County
Junior College District
1400 Electric Service Bldg.
Fort Worth, TX 76102

University of Wisconsin
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Washington University
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